



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

**Work Order ID 69803**

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Thursday, May 19, 2011 1:04:09 PM

Item ID: D6019-128

Accept



Setup Start



Revision ID:

Stop



Item Name: Crosstube Material

Start Date: 5/19/2011 Start Qty: 10.00



Cust Item ID:

Required Date: 5/18/2012 Req'd Qty: 10.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130	Chemical Conversion Coat per QSI005 4.1	0.00							
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HandFinish

Memo

0.00

Hand Finishing

140	QC3- Inspect Part Finish	0.00							
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QC

Memo

0.00

Quality Control

150	Identify as per dwg & Stock Location: <u>LG</u>	0.00							
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Packaging

Memo

0.00

Packaging

u 12.04.27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



**Work Order ID 69803**



Thursday, May 19, 2011 1:04:09 PM



Page 3

Item ID: D6019-128 Accept  Setup Start   
Revision ID: Stop   
Item Name: Crosstube Material  
Start Date: 5/19/2011 Start Qty: 10.00  Cust Item ID:  
Required Date: 5/18/2012 Req'd Qty: 10.00  Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start   
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop 

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160  QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00  0.00						12/4/30	

U120427

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

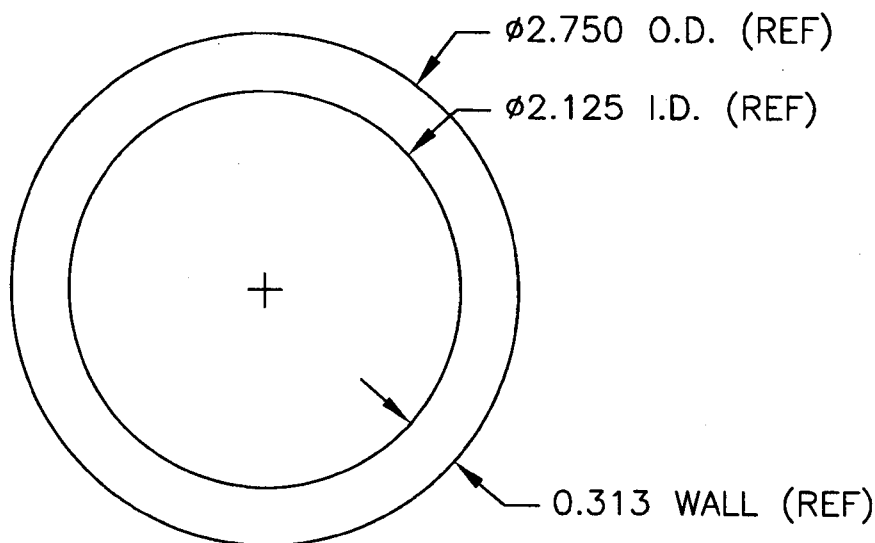
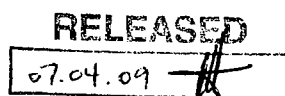
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action      Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN QP	DRAWN BY QP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D6019	REV. A SHEET 1 OF 1
DATE 06.11.03		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	06.11.03	NEW ISSUE	

## SPECIFICATION CONTROL DRAWING



### NOTES

- 1) D6019-XXX CROSSTUBE  
LENGTH

WHERE XXX IS LENGTH IN INCHES  
EG. 128" LONG TUBE: D6019-128

CL 11/05/19  
W10:69803

- 2) MATERIAL: 2.750 OD x 0.313 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.  
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi  
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:  
O.D.:  $\pm 0.006$  MEAN ( $\pm 0.012$  INCLUDING OVALITY)  
WALL:  $\pm 0.015$  MEAN ( $\pm 0.038$  INCLUDING ECCENTRICITY)  
LENGTH: XXX  $+0.125/-0.000$   
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

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Aluminiumwerk Unna AG, Uelzener Weg 36, 59425 Unna, Germany







# EXTRUSION INSPECTION SHEET

## ULTRA SONIC MEASUREMENTS

TUBE #	TOTAL LENGTH	DIA two readings	INSIDE DIA	wall thickness measured w/vern	Strightness at 12"	Rockwell Reading	LOCATION on tube	R1	R2	R3	R4
DWG	128.000"	2.750"	2.125"	0.313"	0.010"	N/A	Middle				
1	128.000"	2.742"/2.751"	2.108"	0.322"/0.309"	0.015"	N/A	64.00" (middle)	0.321"	0.316"	0.322"	0.329"
2	128.000"	2.747"/2.744"	2.102"	0.320"/0.317"	0.009"	N/A	64.00" (middle)	0.326"	0.322"	0.321"	0.323"
3	128.000"	2.745"/2.749"	2.106"	0.338"/0.306"	0.006"	N/A	64.00" (middle)	0.315"	0.324"	0.328"	0.319"
4	128.000"	2.746"/2.749"	2.105"	0.313"/0.328"	0.009"	N/A	64.00" (middle)	0.312"	0.315"	0.335"	0.328"
5	128.000"	2.744"/2.740"	2.104"	0.305"/0.327"	0.009"	N/A	64.00" (middle)	0.326"	0.317"	0.322"	0.324"
6	128.000"	2.741"/2.741"	2.104"	0.314"/0.327"	0.007"	N/A	64.00" (middle)	0.311"	0.329"	0.328"	0.311"
7	128.000"	2.751"/2.747"	2.101"	0.305"/0.329"	0.006"	N/A	64.00" (middle)	0.317"	0.313"	0.328"	0.328"
8	128.000"	2.744"/2.752"	2.103"	0.313"/0.330"	0.010"	N/A	64.00" (middle)	0.322"	0.314"	0.321"	0.331"
9	128.000"	2.745"/2.747"	2.103"	0.309"/0.329"	0.006"	N/A	64.00" (middle)	0.315"	0.314"	0.326"	0.327"
10	128.000"	2.747"/2.749"	2.102"	0.306"/0.335"	0.006"	N/A	64.00" (middle)	0.314"	0.329"	0.328"	0.312"
11	128.000"	2.749"/2.750"	2.106"	0.310"/0.329"	0.007"	N/A	64.00" (middle)	0.331"	0.325"	0.315"	0.319"
12	128.000"	2.747"/2.749"	2.103"	0.308"/0.338"	0.017"	N/A	64.00" (middle)	0.327"	0.337"	0.315"	0.312"
13	128.000"	2.745"/2.745"	2.106"	0.303"/0.320"	0.010"	N/A	64.00" (middle)	0.331"	0.321"	0.312"	0.326"
14											
15											
PART # D6019-128		P/O# 14138		BATCH # B69803		Notes: REFERENCE ONLY 8/26/75					